

POLICY IMPLEMENT
STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

P.I. Number: DTC-05
Bus Stop and Passenger Facilities Policy

References:

Issued: 3/17/2000

Revised: n/a

Effective: 4/16/2000

I. PURPOSE

This policy is established in order to:

- Provide standards for the location and design of bus stops throughout the statewide DTC system
- Provide appropriate customer facilities to attract and retain ridership

II. POLICY

DTC is the public transit division of the Delaware Department of Transportation. Its duties include design and operation of fixed-route bus service. Bus stop spacing, location, design and operation are highly influential on transit service performance (ridership, running time, service reliability, schedule adherence, and farebox revenues) and ultimately on customer satisfaction and retention. As a customer's first point of entry into the public transportation service arena, the bus stop must be customer-friendly, informative and promote continued use of the service. This policy provides guidelines and standards for bus stop interval spacing, location, design, facilities, and maintenance that are necessary for safe and efficient delivery of transit service while enhancing accessibility, reliability, and customer convenience. This policy and the guidelines contained herein will form the basis for transit related facilities to be incorporated into highway construction and improvement projects of the Department. DTC and other divisions will identify highways and corridors served by transit and ensure that appropriate bus stops and passenger facilities are included in any major work on such highways or corridors. Construction or installation of transit related improvements by the Department will be guided by the standards of this policy

A. Roles and Responsibilities

1. Bus stop placement will be the result of a collaborative process within DTC. Service Development shall have the lead role supported by the following sections:

- Operations
- Facilities
- Safety and Risk - may veto any location which is considered to present a safety hazard

2. Other key players in the bus stop design and location process may include but are not limited to:

- Other DelDOT divisions including Planning, PreConstruction, and Highway Operations
- Metropolitan Planning Organizations (MPOs)
- Architectural Accessibility Board
- City/municipal government - where stops are within municipal limits
- Employers/businesses
- Developers

- Neighborhood or civic groups

B. Stop Location

1. Location Criteria

Bus stops will generally be located at or near major trip generators or destinations or at regular intervals based on the population density and transit-related demographic factors along the route. Stops must be in locations where passengers can board and alight safely and where buses can safely enter and exit. Optimally, bus stop locations will have pedestrian friendly facilities, including sidewalks and walkways that separate pedestrians from vehicular traffic. Whenever possible, stops in opposite directions on a route will be located directly opposite each other.

All stops will be fixed locations designated by DTC in accordance with this policy. The use of 'flag stops' or the picking up or discharging of passengers at locations other than designated bus stops is prohibited except by direction of supervisory personnel in emergencies or extraordinary situations.

Bus stops shall not obstruct driveways or entrance ways or cause visual obstructions for motorists or for bus operators merging back into the traffic stream. In areas that have high traffic volumes, turning movements, and pedestrian crossings through intersections, the stop should be placed where it presents the least conflict with vehicular traffic and pedestrians.

All bus stop locations including associated pull in/out areas, should be designated no parking zones. DTC will work with local governments to enact appropriate ordinances.

Decisions for final bus stop selection will be based on the following:

- Passenger origins and destinations
- Adjacent land use and activities
- Operational feasibility in accessing the stop
- Physical constraints or obstructions (trees, driveways, etc.)
- Pedestrian access including accessibility for people with disabilities
- Parking restrictions and requirements
- Traffic volumes on adjacent roadways particularly as evidenced by turning movements
- An examination of the individual bus route/routes that serve the potential stop
- Bus and intermodal (rail, park and ride) transfers to the stop

Safety is a critical consideration. Stops shall not be placed where they present a hazard to passengers, transit vehicles, or other traffic.

2. Park and Ride Lots

Park and ride lots are a special category of bus stops intended to extend the reach of transit by collecting passengers from a wider area. Their location is based on availability of land or preexisting parking and connections to the regional highway system. Park and rides may also accommodate carpoolers, bicycle riders and serve as transit hubs. They generally will have a high level of customer facilities. Planning and development of park and rides include a higher level of involvement with other DeIDOT divisions and regional planning organizations.

3. Bus Stop Interval Spacing

Bus stop interval spacing has a major impact on transit operations. It greatly impacts a route's travel time, service reliability, and schedule adherence as well as the route's attractiveness to the customer population. DTC guidelines for bus stop spacing are based on a combination of population density and demographic factors that influence the propensity of a population to use transit. Analysis of these factors using a Geographic Information System (GIS) enables the transit density of an area to be categorized as high, moderate, or low. Interval spacing will also be influenced by the following:

- Type of service operated
- Ridership levels
- Passenger transfer potential and demand
- Type of roadway used for operation
- Prevailing traffic conditions operating on the roadway
- Adjacent and surrounding land use, trip generators, or attractors
- Topography of the area
- Population densities and demographic characteristics
- Interface with other routes and public transportation services

a. Local Bus Service With High Transit Density: Bus stops should be placed approximately 750 feet apart or 7 bus stops per mile. Within urban areas, this guideline may translate into a bus stop interval spacing of approximately 3 blocks between stops. Typically, an area will have high transit density if it is primarily commercial, has a high concentration of employment, or the population densities are greater than 3,000 people/square mile.

b. Local Bus Service With Moderate Transit Density: Bus stops should be placed approximately 1,000 feet apart or roughly 5 bus stops per mile. Placement of bus stops in a medium density area should place a premium on safe pedestrian access to the stop location, safe bus access to the bus stop, and safe bus re-entry into traffic flow. Within Delaware, suburbanization is increasing as more rural areas are developed and transformed into suburban residential areas. Typically, areas of moderate transit density have population densities between 900 - 3,000 people/square mile.

c. Express and Intercounty Bus Service: For most of their routes these services will have intervals of several miles between stops. Stops will generally be located at major destinations, transfer points, or park-and-ride lots. Most riders will use transfer buses or park-and-ride rather than walking to their originating stop. Express/Intercounty buses will make frequent stops only in major urban or commercial districts.

d. Local and Intercounty Bus Service With Low Transit Density: Generally, this type of environment lacks the compact street network, land use patterns, and concentrated population commonly associated with high density locations. Stop locations will generally be based on activity centers rather than distance. Intercounty and local bus service within a lower density area may function as collector/feeder services. Typically, an area has a low transit density if its population densities are less than 900 people per square mile.

In rural areas, designated bus stops must be clearly marked to be visible during times of poor visibility. A preference may be given to locating bus stops at highly visible locations such as commercial

areas, convenience stores, or schools.

4. Exceptions to Interval Spacing Requirements:

Interval spacing guideline exceptions should be limited and made on a case-by-case basis in order not to confuse customers or adversely impact a route's running time and schedule adherence. The following are examples of exceptions to interval spacing requirements:

- Street or subdivision design causes walking distance to the stop to be excessive
- Topographic conditions, such as hills or steep grades leading to and from a bus stop
- Demographic characteristics of customers, such as elderly customers who are unable to conveniently travel the prescribed guideline distance between bus stops
- High volume activity centers

DTC reviews every bus route a minimum of twice a year during scheduled service changes. During these reviews, Service Development will identify bus stops that do not conform to the guidelines for interval spacing, location, and placement. Service Development will recommend removal or a new stop location for each non-compliant bus stop. The selected bus stops will be reviewed with Safety, Operations, and Facilities prior to each scheduled service change and removed, relocated, or established accordingly.

5. Consolidation of Bus Stops: Where there are excessive numbers of stops located at short intervals, stops with low levels of ridership will be consolidated. Individual stops may be eliminated or adjacent stops may be consolidated at a suitable intermediate location. Determination of stops to be retained will be based on operational, safety, accessibility, customer convenience considerations and on the suitability of the site for customer facilities. Consolidation of several low-ridership stops may justify installation of facilities at the new location. New facilities may be perceived as an improvement in the service environment to the passenger.

C. Bus Stop Design

1. Location

Consistent with the flow of traffic, bus stops may be placed in three basic configurations:

- Far-side curb (placed immediately after an intersection)
- Near-side curb (placed immediately before an intersection)
- Mid-block curb (placed between intersections or along the side of a stretch of roadway)

DTC will endeavor to place all bus stops at far-side locations provided they are safe within the immediate adjacent environment. Appendix A provides descriptions and schematics of these configurations.

2. Pedestrian Access

Bus stop placement must have safe pedestrian access to and from the stop. Newly constructed bus stops must fulfill the federal requirements of 49 CFR Part 37, Appendix A to comply with the Americans with Disability Act (ADA) and the Architectural Accessibility Board (AAB) standards for people with disabilities (See Appendix B, Figure B-1; State of Delaware Architectural Accessibility Board Standards; and CABO/ANSI A117.1-1992). The accessible path to the bus stop should be well-drained and, when possible, placed where there are existing street lights to provide lighting and security for

passengers.

The accessible pathway to the bus stop ideally has the following characteristics:

- Clear width of no less than 36", preferably 60" (the minimum width needed to allow passage of two wheelchairs simultaneously)
- Running slope of the pathway can be no greater than 1:12 (rise/run) per ADA and AAB standards
- The surface of the pathway must be firm and well-drained
- The path must have ADA and AAB compliant curb cuts at all street intersections

DTC does not itself provide physical improvements outside the immediate environment of the bus stop. It will work with appropriate organizations to ensure that the provision of suitable sidewalks is included in roadway improvement or land development projects to enhance pedestrian accessibility.

D. Passenger Facilities

The comfort, convenience, and safety of the bus stop and its approaches are key factors in attracting and retaining transit riders. Passenger facilities that are provided at each stop will be based primarily on boardings at the respective stop, as depicted in Appendix G, although special needs or circumstances may be considered. Special consideration will be given to stops that serve multiple routes and experience significant numbers of transfers.

In areas served by transit, passenger facilities will be included on highway expansion or reconstruction projects at key locations as a means of generating new ridership. During the design of the project, DTC, Preconstruction, and Planning will confer and jointly identify those stop locations having the greatest potential for expanding ridership. Passenger facilities will be provided at those identified stops when the highway is being improved.

It should be noted that physical constraints, property restrictions, and the needs of vehicle or pedestrian traffic may limit DTC's ability to install the usual facilities at some locations.

1. Signing

Bus stops are identified by a standard DTC bus stop. Specifications for bus stop signs and installation of same are shown in Appendix C. A number of jurisdictions within the State specify and provide their own signs; in these cases DTC will work with the appropriate officials to ensure that stops are properly signed. Signs for DTC recognized public transit services may be placed on the same post, below the DTC sign (example: Unicity in Newark).

On roads or streets where parking is permitted, bus stops should be designated "No Stopping, Standing, or Parking" zones with appropriate signing.

2. Customer Information

Information boards depicting routes and schedules of routes serving a stop will be provided at major stops, generally those with shelters or benches and all park and ride locations. System maps or schematics depicting the routes and available connections from the stop and other transit-related information or promotional materials may also be provided. Informational materials will be updated at each schedule change or as required.

As advanced customer information systems become available, they will be deployed at major stops or where they can be most useful to customers.

3. Paved Passenger Waiting Areas

All bus stops should have a paved waiting area for the safety and comfort of customers. This may be a pre-existing sidewalk or paved roadway shoulder. There should be a clear width of not less than 60" to accommodate the turning radius of a wheelchair onto a wheelchair lift platform. Alternatively, DTC may construct concrete pads measuring at least 8x8 feet for bus stops that have consistent daily ridership. DTC will work with other DelDOT divisions and municipalities to incorporate construction of bus stop pads and/or sidewalks, as appropriate, into highway construction projects, and with private developers to include them in new construction. If a new pad is constructed, either publicly or privately, it must meet ADA and Architectural Accessibility Board Standards (see Appendix B, Figure B-1; State of Delaware Architectural Accessibility Standards; and CABO/ANSI A117.1-1992).

As ridership grows, there will be a need to install shelters, bicycle racks, or other improvements at stops. Where possible, DTC will seek to reserve space for such future improvements, including grading land beyond that required for the initial pad installation. DTC Service Development will work with relevant DelDOT offices, municipal governments, and property owners to ensure that such space is kept clear of fixed structures, utility poles, lines, ditches, and similar obstructions. Appropriate easements will be obtained for each stop location.

4. Benches

- a. Benches are a low-cost facility to enhance the comfort of passengers at bus stops. Location criteria for installation of benches are as follows:

High Transit Density	20 or more boardings per day
Moderate Transit Density	10 or more boardings per day
Low Transit Density	5 or more boardings per day

Benches may also be installed in cases such as the following:

- Available space at the bus stop location will not permit installation of a shelter
- Landowner has denied the installation of a shelter
- Routes serving the stop have long intervals between buses
- Bus stops used by significant numbers of elderly or disabled persons
- Problems are experienced with passengers sitting on curbs, steps, structures or other facilities not associated with the bus stop

b. The placement of benches should be in the vicinity of shade trees or benefit from existing overhead sheltering where possible. Benches should be placed near existing streetlights, on a non-slip, properly drained surface, either on a sidewalk or a concrete pad within the right-of-way. On streets with high speeds or high volumes of traffic, the bench should be at least 8' behind the curb to ensure waiting passenger safety and comfort. The bench should be placed clear of pedestrian pathways and boarding areas, including boarding areas for wheelchair users. The bench should be constructed of vandal-proof and weather resistant material.

5. Passenger Shelters

a. DTC's decision to install a shelter is guided primarily by the number of passenger boardings per day, as follows:

High Transit Density	40 or more boardings per day
Moderate Transit Density	20 or more boardings per day
Low Transit Density	10 or more boardings per day

Additional considerations to evaluate the decision to install a shelter include:

- The number of passenger transfers at a stop
- The amount and frequency of bus service at a stop
- The number of elderly or people with disabilities utilizing the stop
- Proximity to major employment, activity, or commercial centers
- The availability of space to construct the shelter
- Ability to locate the shelter without causing a visibility hazard to traffic

b. Shelters will be of a standardized modular design to permit enlargement by adding modules, (see Appendix B for specific shelter dimensions and standards) and will be constructed of anodized aluminum frames and tempered glass or polycarbonate glazing. Components will be interchangeable for replacement in case of damage or vandalism. Shelters will be at least 5' deep and generally 15' wide. Ten feet, twenty-five feet, or other sized shelters will be used when appropriate, based on space constraints and passenger demand. Shelters will be equipped with a bench in the rear across all but one frame or approximately 5' to leave room for wheelchairs and general accessibility.

In some cases municipalities or businesses may desire to have custom-designed shelters to conform to historical or architectural themes. If the location warrants a shelter, DTC may enter into a partnership arrangement under which the requesting entity will fund any and all costs beyond those of procurement and installation of a standard DTC shelter. If a location does not warrant a shelter, the municipality or business will be responsible for the entire cost and for all maintenance beyond routine cleaning. Failure to adequately maintain the shelter may result in discontinuation of service. In all cases, the design must be approved by DTC Facilities and Safety Sections and must comply with the ADA and other legal requirements.

Cantilevered shelters, without side panels or supports, may be used in locations where a standard shelter would block sidewalks or pedestrian pathways.

Shelters will be cleaned and trash receptacles emptied on a weekly basis or more frequently as determined by DTC. DTC will make every reasonable effort to maintain shelters in satisfactory condition. However, it reserves the right to remove panels without replacement or to remove shelters entirely where repeated instances of vandalism or other damage or defacement occurs.

c. Shelter placement guidelines are as follows:.

- Shelters should be placed parallel to the existing outer curb or edge of paved roadway in a concrete pad or paved area (may include sidewalk where present) at least 2' wider than the size shelter planned for installation
- There must be a clear space of a minimum of 8' from the curb either in front of

or adjacent to the shelter to meet ADA and Architectural Accessibility Board requirements

- The concrete pad must be a minimum of 8" thick between the shelter supports and 4" elsewhere
- The shelter can be oriented to face away from the street to protect waiting passengers from snow buildup, splashing water, or wind
- Placing bus stop shelters in front of store windows or businesses should be avoided
- Shelters placed directly adjacent to a building must have a 12" clear space between the shelter and the building to permit trash removal and cleaning of the shelter
- Service Development will prepare shelter placement site plans, then review them with Facilities and Safety, and submit them to the local governmental jurisdiction, as required, for approval
- The shelter placement will be within the existing right-of-way or an approved area by the owner if placed on private property

d. DTC reserves the right to remove shelters where repeated instances of vandalism or other damage or defacement occur.

6. Privately Provided Shelters

Businesses, developers, community organizations, or other private parties may pay for and install shelters on bus routes that serve specific developments, neighborhoods, shopping malls, or employment or activity centers. The design elements of a privately provided shelter need to meet DTC, ADA, and Architectural Accessibility Board guidelines. All designs must be compatible with customer needs and operational safety considerations. Prior to installation, an agreement on ownership and maintenance must be signed between DTC and the private provider. DTC must provide final approval on the design configurations for these facilities. Privately provided shelters may consist of a thematic or artistic design that is compatible with the major design features of the surrounding buildings or neighborhoods as long as essential security, safety, and accessibility criteria are met. The agency providing the shelter may be recognized with a small plaque or sign. DTC reserves the right to discontinue service if the shelter or its maintenance fail to comply with these requirements.

7. Trash Receptacles

Trash receptacles typically are provided at bus stops with shelters or benches, high volume stops, major transfer points, and specific sites where littering on site at a bus stop is identified as a problem. Trash receptacles must be placed where they will not obstruct passengers boarding or alighting from the bus, deployment of wheelchair lifts, or pedestrian traffic on the sidewalk. Trash receptacles will be emptied and cleaned on a weekly basis or more frequently if required.

8. Lighting

It is highly desirable to place all bus stop signs, shelters, and benches in areas where lighting is or can be provided. The lighting of bus stops offers the following advantages:

- Safety and security, both real and perceived, of waiting transit passengers;
- Ability of bus drivers to clearly see the bus stop area and passengers.

Where lighting is not available, DTC may coordinate with local government to provide it for bus stop areas having night service, high ridership, or significant numbers of transfers.

Interior lighting should be provided for shelters, although it is recognized that maintenance and utilities become an ongoing operational expense. Solar-powered overhead lighting systems may be used to minimize utility costs, both at installation and throughout the life of the shelter. Lighting fixtures will be modular to facilitate installation, replacement, or removal. DTC reserves the right to remove lighting fixtures where repeated instances of vandalism or other damage or defacement occur.

9. Additional Convenience Facilities

Additional convenience facilities may be installed at highly utilized transit stops, in particular where shelters exist. This is done to increase the attractiveness and customer friendly environment of bus stops and Park and Ride lots. DTC will coordinate the installation of such facilities but does not assume any liability associated with their presence or use. Facilities to be considered will include:

- Pay phones
- Newspaper boxes

Public telephones will be placed at all park and ride locations and at major bus stops. The installation should adhere to ADA accessibility guidelines and not obstruct pedestrian circulation. Telephones may be limited to outgoing calls only outside of DTC's normal operating hours at the location. Phones provide passengers convenience to make personal or emergency calls and to have access to transit information.

The installation of vending machines and newspaper boxes will be the responsibility of private vendors. Where bus stops are located within DeIDOT right-of-way, DTC will require that boxes be secured to reduce vandalism and be placed in a location that does not interfere with pedestrian traffic or wheelchair access to the shelter.

10. Bicycle Storage Facilities

As part of its commitment to provide a range of multi-modal transportation choices to transit customers, DTC will provide bicycle storage facilities at high volume, park and ride lots or in other appropriate locations statewide. Identification of specific sites will be based on bicycle plans developed by the Department of Transportation, local transportation planning agencies, and cycling advocacy groups. DTC will also consider installing bicycle facilities where requested by potential users. Bicycle facilities add significantly to the right-of-way and paved area required for a bus stop, so their installation must be based on a clearly identified demand. Bike and ride locations must be served by safe bicycle access routes.

Due to the escalating cost of bicycles and the high incidence of vandalism to bikes left on bike racks, bicycle lockers will be provided at sites where customer demand and the local bicycle circulation network warrant. Lockers may be rented from DTC; applicants are given a key to the locker.

E. Procedure

1. New Stops, including New or Extended Routes

Service Development is responsible for developing new or extended routes in cooperation with other DeIDOT divisions and outside agencies and for identifying new stop locations on all routes.

New bus stops may be added to an existing bus route if its placement does not conflict with this policy's interval spacing requirements. Requests for new stops will be referred to Service Development for

evaluation and determination of further action:

- Service Development will review ridership and social, economic, environmental, political and legal factors associated with the request
- If the request is acceptable and funding is available, a visit to the site with Operations, Facilities, and Safety will determine the most appropriate location or design
- Facilities will prepare the site plan or task description and manage the installation
- Service Development will obtain final location and placement approvals from any impacted property owners and local jurisdictions
- Service Development will coordinate with the Divisions of Planning and Preconstruction to ensure that all plans are consistent with current and planned highway projects

If the request is rejected, Service Development will initiate a follow-up in writing explaining why the request was rejected to the source of the request.

2. Modification of Bus Stops along Existing Routes

Stability of routes and stops is important to develop and maintain ridership over time. For this reason DTC policy is to maintain stops at established locations, particularly when infrastructure improvements have been made at such locations. However, bus stops may be evaluated for relocation or removal if appropriate conditions, such as the following, apply:

- A safety or security problem exists
- The bus stop generates little or no ridership
- Proximity to other stops violates interval spacing guidelines
- A bus stop can be made more accessible to wheelchair/lift users by its relocation
- Site is impacted by new construction
- Relocation will alleviate significant negative impact on an interested party
- Transit service to the stop is discontinued due to service change or route realignment

Suggestions for modifications to bus stops will be referred to Service Development for evaluation. Service Development will solicit input from Safety, Operations, and Facilities and will make a determination if modifications are warranted.

- Facilities will prepare the site plan or task description and manage the installation
- Service Development will obtain final location and placement approvals from any impacted property owners and local jurisdictions
- Service Development will coordinate with DelDOT to ensure that all plans are consistent with current and planned highway projects.

Stops may be temporarily closed or relocated if impacted by construction, street closures, or other obstructions but will be reestablished at their regular location when the special circumstance ceases to impact the prescribed location.

3. Removal of Bus Stops

Bus stops may be removed from service if they no longer have significant ridership, major attractors, or trip generators; or violate interval spacing, safety or operational requirements. Suggestions for removal of stops will be referred to Service Development. Service Development will review existing and potential ridership, and solicit input as required from Safety, Operations, and/or Facilities to make a

final determination.

Removal of the stop will take place at the next regular schedule change unless immediate action is required for safety or operational reasons.

Appendix A

Bus Stop Location Type

Far-side Bus Stops

Under most circumstances, far-side bus stops are the recommended bus stop placement. Far-side stops greatly facilitate bus re-entry into the traffic flow and minimize conflicts with right turning vehicles and pedestrians crossing the intersection. Curbside bus stop zone dimensions for a far-side stop consist of a minimum of 25' behind a stopped bus for low speed and low volume streets, with a desirable 50' length for high speed or high volume streets. There should be a minimum of 30' in front of the stopped bus to facilitate the driver in getting the bus back into the traffic flow (See Figure A-3). Sign placement should be a minimum of 75' from the corner tangent point and at least 1' and not more than 8' from the outer curb with a clear height of at least 7' from the ground to the lowest part of the sign.

The City of Wilmington's curbside bus stop zone dimension requirements for a far-side stop call for the bus stop sign to be installed 12' from the corner tangent point of the intersection and at least 2' from the outer curb. From the sign placement, the bus stop zone must have at least 60' in length, including the length of a 40' bus.

Near-side Bus Stops

Near-side bus stops may be chosen if:

- a. the stop location provides greater safety for transit passengers and does not expose the bus to an increased accident risk when compared with the adjacent far-side location;
- b. there is considerably more traffic on the far side of the intersection and the stop does not conflict with right turning vehicular traffic movements;
- c. there are land uses on the far-side which adversely impact passenger safety and/or safe bus operations.

Curbside bus stop zone dimensions for a near-side stop consist of a minimum of 40' behind the stopped bus on low speed and low volume streets, with a desirable 60' for high speed and high volume streets (See [Figure A-1](#)). Sign placement should be 10' from the corner tangent point, at least 1' but not more than 8' from the outer curb, with a clear height of at least 7' from the ground to the lowest part of the sign.

The City of Wilmington's curbside bus stop zone dimension requirements for a near-side stop call for the bus stop sign to be installed 12' from the corner tangent point of the intersection and at least 2' from the outer curb. From the sign placement, the bus stop zone must have at least 60' in length, including the length of a 40' bus.

Mid-block Bus Stops

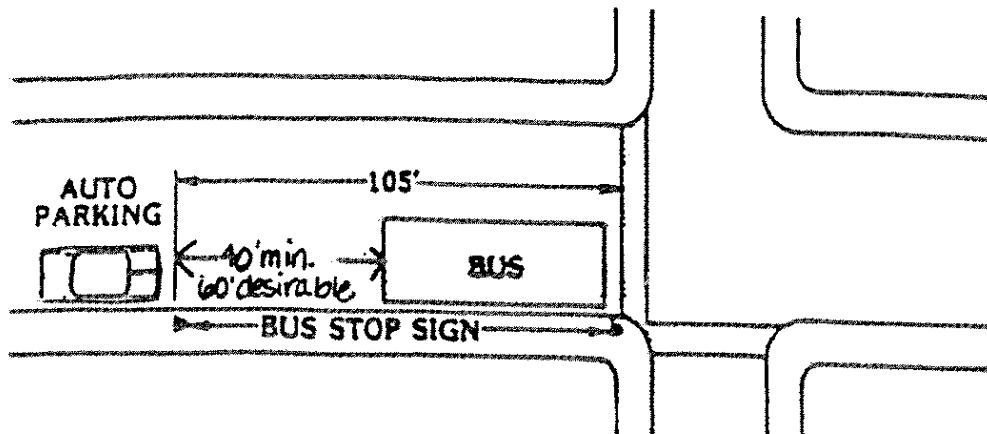
Mid-block bus stops are not preferred within urban areas and should be recommended only if a far-side or near-side stop is not feasible. Such locations are generally chosen because of the adjacent land uses and activities. They can be more difficult to serve because vehicle encroachment is more likely to occur at such locations. Such stops frequently increase walking distances for passengers and may be

more intrusive for the community.

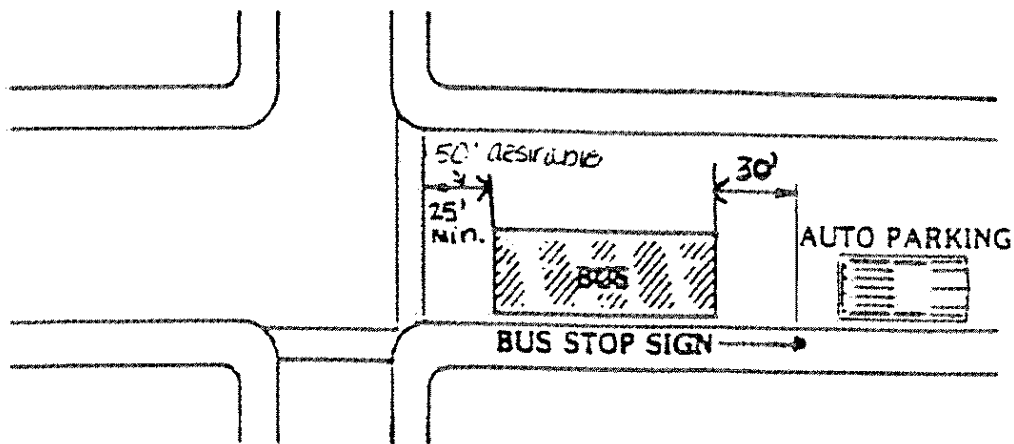
Mid-block stops require more curb space than either far-side or near-side locations, a minimum of 120' in length and a maximum of 160' (See [Figure A-2](#)). A mid-block bus stop sign should be placed at least 1' and not more than 8' from the outer curb with a clear height of at least 7' from the ground to the lowest part of the sign.

Figure A-1

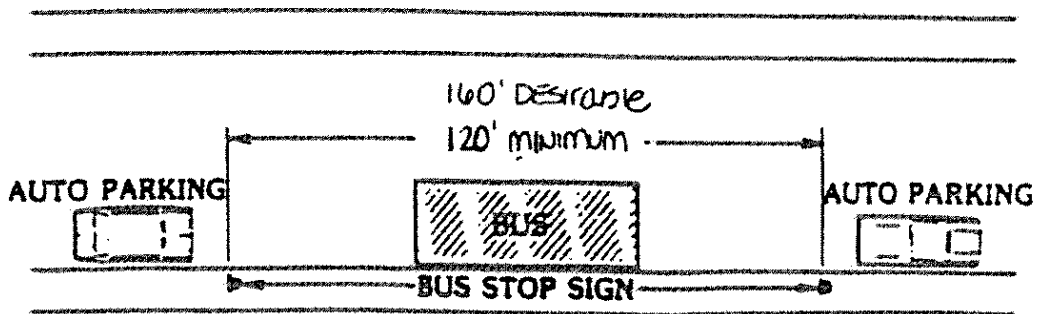
Appendix A
Figure A-1



NEARSIDE STOP



FAR SIDE STOP



MID-BLOCK STOP

Figure A-2

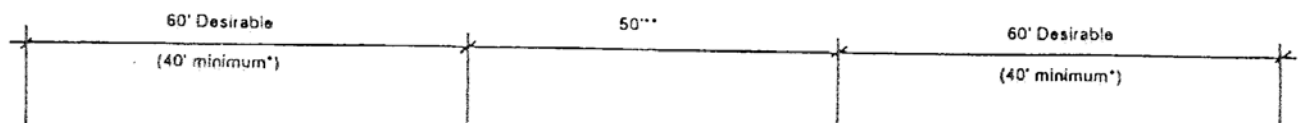
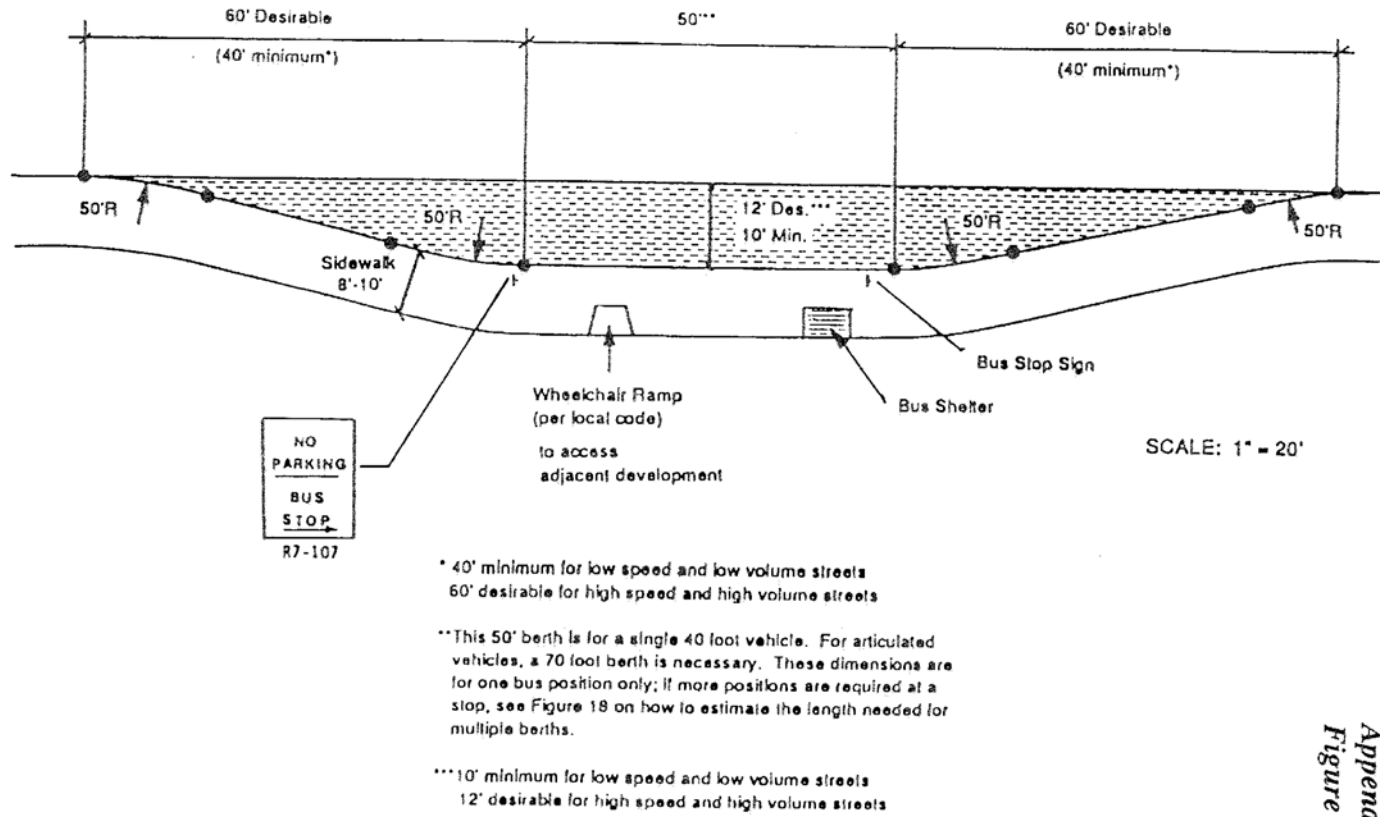
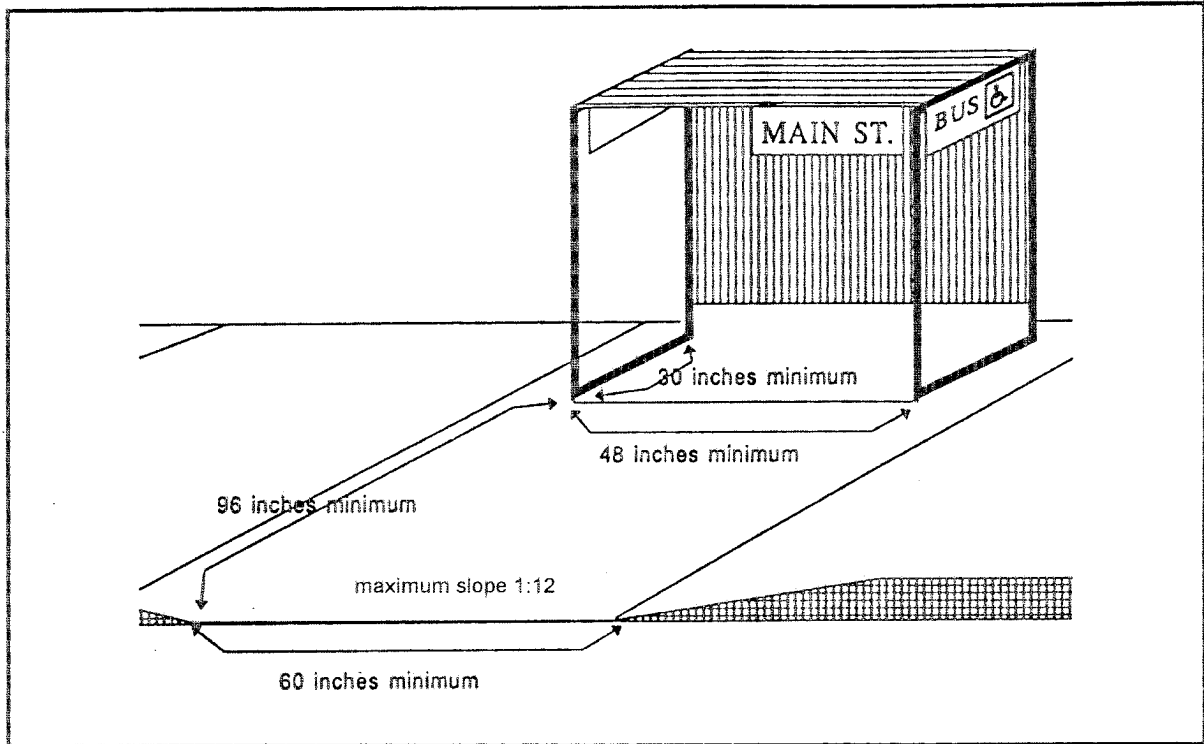


Figure A-2



Appendix B



Appendix B
Figure B-1

Appendix C

Signage and Regulation

DTC purchases, provides and installs bus stop signs on all fixed routes, except within municipalities that require signs of their own design. UniCity posts a separate bus stop sign below DTC bus stop sign within the City of Newark.

1. Bus Stop Signage

The bus stop sign denotes the establishment of a bus stop as well as the routes serving that bus stop location. Bus stop signs should be placed at the actual boarding location, municipal regulations and space constraints permitting. DTC bus stop signs consist of a flat 18" length x 12" width rectangular sign with rounded corners. The sign consists of fiberglass or aluminum material that has reflective properties. The sign's background color is off-white. The sign's appearance is comprised of a 9 3/4" length x 9 1/2" width colonial blue (PMS 634) rectangle with a bus picture symbol and DTC logo (lettering size of the logo is 1 1/2" in height). All signage lettering is in Helvetica bold typeface. Below the colonial blue rectangle is the lettering "Delaware Transit Corporation" in colonial blue measuring 1/2" in height. Also found below the lettering, is a bright red rectangular box, with white numbers displaying DTC's "1-800-652-DART" customer information service number (measuring 3/4" in height). Immediately below the phone number is the lettering "Routes" in colonial blue measuring 1/2" in height. Up to three colonial blue boxes, measuring 3 1/4" length x 3 1/4" wide, contain the individual bus route number information (See [Figure C-1](#)).

If the number of bus routes serving the bus stop exceeds three, additional panels of rectangular boxes of the same size and color as the basic sign will be attached at the bottom of the sign. A larger size sign (for example a 24" x 36" or 18"x 24") may be used at stops where there are multiple routes boarding.

"No Stopping, Standing, or Parking" signs will be added where required (see [Figure C-2](#) and [C-3](#)). Before the "No Parking" signs are added to the existing bus stop signs, the appropriate local review and approval processes associated with no parking areas will need to be completed.

Bus stop signs are mounted with two bolts to an 8' channel post attached to a 42" stub, consisting of a gray metal color. In urban areas or where there is significant congestion of signs, bus stop signs may be placed on existing traffic sign poles or posts, with no more than two signs per pole or post. The bus stop sign should be placed with a clear height of at least 7' from the ground to the lowest part of the sign.

Figure C-1

Appendix C
Figure C-1



Bus stop pole installation should be within the grassy or earth area whenever the bus stop is separated from a curb. If this area is too narrow, the sign may be on the other side of the sidewalk. Where there is a wide sidewalk (greater than 6 1/2') attached to a curb, the bus stop pole installation may be within the sidewalk at least 2' from the outer curb, so located that it will not interfere with the flow of pedestrians.

Placement of DTC bus stop signs should be within the State or municipal right-of-way. If the bus stop sign placement is on private property, written permission must be sought from the private property owner before installation.

Figure C-2

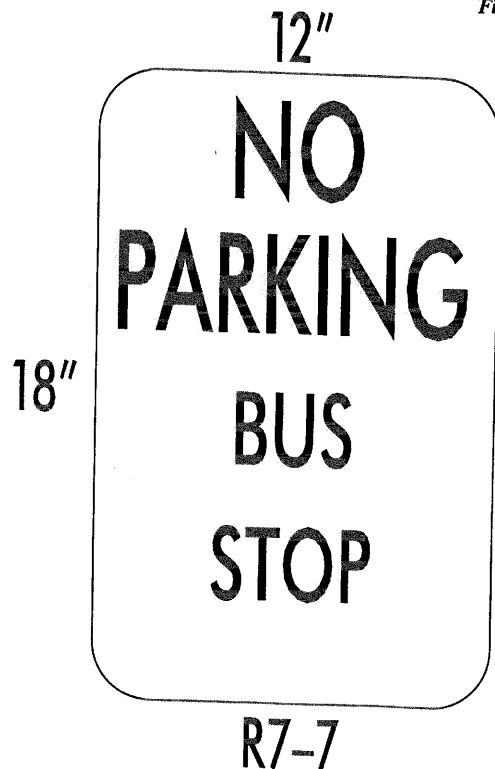
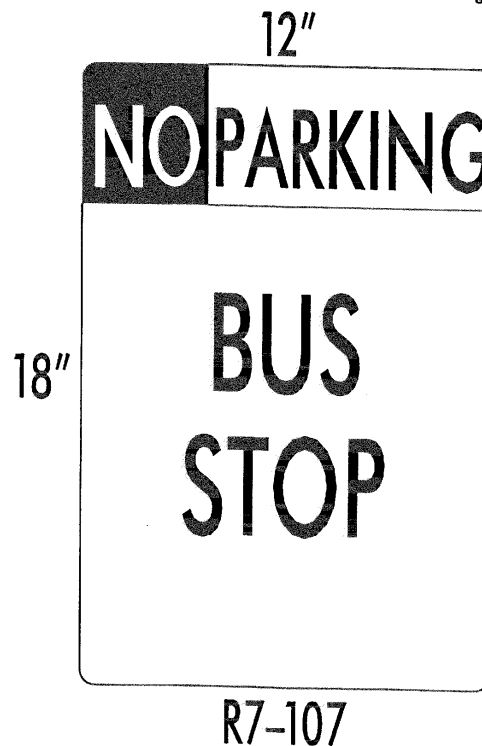


Figure C-3

Appendix C
Figure C-2

Appendix C
Figure C-3



2. Municipal Regulation of Bus Stops

Curb markings in traffic yellow are used to indicate "No Parking" at stops where on-street parking is permitted. Within municipalities such markings are the responsibility of the local government, and DTC will work with them to ensure that all bus stops are delineated. Pavement markings may be used in heavy traffic areas or where parking in bus stops is identified as an ongoing problem.

The Cities of Wilmington and Newark have established ordinances to prohibit parking of vehicles other than buses in officially designated and properly signed bus stops.

Within the city of Wilmington, two separate "No Parking Bus Stop" signs are installed for every bus stop. Both signs are installed within the curbside bus zone dimensions; one with the bus stop sign itself, 12' from the corner tangent of the intersection and one 60' beyond the bus stop. "No Stopping" sign designates the end of the bus stop zone.

At all other locations, one or two signs denoting "Bus Stop Zone - No Stopping, Standing, or Parking" are used, with the words "Between Signs" added when two signs are used.

The Town of Dewey Beach prohibits parking, standing, and stopping at all bus stops. Bus stop locations are considered traffic regulatory matters and enforced by ticketing violators and towing vehicles obstructing bus stops. Currently, all bus stop locations within the Town of Dewey Beach are on State roadways. No pavement markings are used to indicate "No Parking" in bus stops, only a "No Parking" sign is displayed along with the bus stop sign placement.

The City of Lewes prohibits parking, standing, stopping in bus stops through a City Ordinance. Pavement markings in traffic yellow are used to indicate parking restrictions in bus stops. Traffic regulations within the bus stop zone, totaling 39' in length from the corner tangent of the intersection as designated by the City of Lewes, are enforced by the Police Department by issuing parking citations.

3. Implementation of Bus Stop Regulations in Specified Municipalities

DTC must receive approvals from the municipal authorities before the installation and placement of bus stop signs within municipal jurisdiction. The following are the procedures required by specific municipalities:

City of Wilmington--A recommendation for a City Ordinance needs to be initiated by the Traffic Superintendent, Transportation Division of the Department of Public Works and finally approved by the Mayor and City Council for implementation.

City of Dover--A recommendation for a City Ordinance needs to be initiated by the City's Planning Department and finally approved by the Mayor and City Council for implementation.

City of Newark--A proposal needs to be submitted to the Traffic Committee, approved by the City Manager, and passed by the City Council for implementation.

Town of Middletown--An ordinance needs to be recommended and finally adopted by the Mayor and Council for implementation.

Resort Area Towns--A recommendation for a city ordinance needs to be drafted and given to the appropriate Town Manager or Mayor and Council for implementation.

Appendix D

Classification of Bus Stops

Class I Bus Stop

Criteria:

- Greater than 100 average daily passenger boardings
- Major transfer and collection point for bus passengers
- Pedestrian circulation including crosswalks, curb cuts, and/or safety islands as appropriate

Facilities:

- One or more 15' or larger shelters as appropriate for ridership, peak hour boardings, and transfers
- DTC bus stop sign or signs denoting boarding locations for various routes
- Two "No Stopping, Standing, or Parking" signs, if required, designating the bus stop zone
- Customer information displays - schedule(s), schematic system map
- Trash receptacle(s)
- Pay phone

Class II Bus Stop

Criteria:

- 40 or more daily boardings in areas of high transit density
- 20 or more daily boardings in areas of moderate transit density
- 10 or more daily boardings in areas of low transit density

Facilities:

- Shelter, 15' or as appropriate for ridership, peak hour boardings, and population density
- DTC bus stop sign
- Two "No Stopping, Standing, or Parking" signs, if required, designating the bus stop zone
- Customer information display board - schedule(s), schematic system map (optional)
- Trash receptacle(s)
- Pay phone (optional)

Class III Bus Stop

Criteria:

- 20 or more daily boardings in areas of high transit density
- 10 or more daily boardings in areas of moderate transit density
- 5 or more daily boardings in areas of low transit density

Facilities:

- Bench (2' x 6' or 2' x 8')
- Concrete pad for bench (8' x 10' or 10' x 10') if existing sidewalk does not provide sufficient space
- DTC bus stop sign

- Two "No Stopping, Standing, or Parking" signs, if required, designating the bus stop zone
- Customer information display board - schedule(s), schematic system map (optional)
- Trash receptacle(s) (optional)
- Pay phone (optional)

Class IV Bus Stop

Criteria:

- This classification does not warrant the installation and maintenance of a shelter, bench or other street furniture

Facilities:

- Paved passenger waiting area or concrete pad measuring at least 8' x 8'
- DTC bus stop sign
- Two "No Stopping, Standing, or Parking" signs, if required, designating the bus stop zone

Appendix E

Park and Ride Facilities

DTC provides park and ride facilities in appropriate areas served by transit to concentrate transit users from low density areas and areas which cannot be directly served by transit vehicles. In corridors experiencing roadway construction, a park and ride facility may serve as a traffic mitigation strategy to reduce the number of single occupancy vehicles and traffic congestion within an area.

Park and rides may be on state property or private land made available by businesses or organizations, but all must meet certain basic criteria. All park and ride facilities consist of off-street open space parking on a hard surface delineated by striping. Pavement surfaces must be capable of accommodating buses if they are to enter onto the property to pick up passengers. Sufficient lighting must be provided for the safety and security of passengers. Other facilities including bus shelters, route and schedule information, bicycle racks or storage facilities, and other convenience facilities may be provided at park and ride locations as determined by DTC. Investment in improvements on private property is at the discretion of DTC and requires a lease of sufficient term to amortize DTC's investment.

1. State Park and Rides

DTC will work with other DeIDOT divisions (Planning, Preconstruction, Highway Operations) to establish and maintain park and ride lots at suitable locations on state right-of-way. Such lots are intended to serve both carpools and transit customers. DTC should be involved early in the design phase to ensure that bus lanes, turning radii, pedestrian access, and transit facilities are suitable.

State-owned park and rides will generally be major transit hubs, provided with the highest class of facilities. Installation of bus lanes/pads, shelters, sidewalks, and other facilities should be included and funded in the basic design of the park-and-ride. Should improvement or retrofitting of transit facilities to existing park and rides be required, DTC and other DeIDOT divisions will negotiate a division of costs and responsibilities. All shelters and facilities must be ADA accessible.

Maintenance, grounds keeping, utilities, and snow removal for park and rides will be managed as part of DelDOT's statewide maintenance program. This will include sweeping and trash pickup throughout the lot, but DTC will provide routine upkeep and cleaning for shelters and the immediate vicinity of the bus stop. DTC may also provide snow removal or other emergency response when required to maintain transit operations.

2. Retail Lots

DTC will execute agreements to establish park and ride lots in suitably located and equipped shopping centers and similar commercial sites. Given the benefits of bringing customers to the site, DTC will not normally pay or reimburse the property owner. DTC will execute a standard hold-harmless agreement with the property owner to lessen liability exposure. The Attorney General's office must review and approve such an agreement before execution.

In cases where installation of a bus pad, shelter, or other facilities on private property appears to be warranted, Service Development will approach the owner of the property to determine its interest in providing or participating in the installation. DTC may decide on a case-by-case basis to install required improvements on private property in which case an agreement will be executed specifying the roles and responsibilities of the parties. Shelters, sidewalks, curb cuts, and other facilities must be ADA accessible.

Maintenance, grounds keeping, and utilities will remain the responsibility of the property owner except that DTC will maintain shelters or installed amenities. In emergency situations, DTC may provide snow removal or other services required to maintain transit operations.

3. Social Organizations/Churches

DTC will negotiate agreements for park and rides with churches and other nonprofit organizations in suitable locations which can provide parking capacity during primary operating hours. DTC may pay up to \$10 per parking space per year for up to 50 spaces. In the use of private lots, DTC will execute a standard hold-harmless agreement with the property owner to lessen liability exposure. The Attorney General's office must review and approve such an agreement before execution.

In cases where installation of a bus pad, shelter, or other facilities is warranted, Service Development will approach the property owner to determine its interest in providing or participating in the installation. DTC may decide on a case-by-case basis to install required improvements on private property. In these instances, an agreement will be executed specifying the roles and responsibilities of the parties. Shelters, sidewalks, curb cuts, and other amenities must be ADA accessible.

Maintenance, grounds keeping, utilities, and similar expenses are generally the responsibility of the property owner. In the case of nonprofit organizations, DTC may agree to pay up to \$1,000 per year for lot repair and striping. The property

owner must provide invoices explicitly stating the type, amount, and cost of repair work which they have performed.

DTC may agree to take responsibility for snow removal within these types of park and rides. DTC utilizes these lots 5 to 6 days/week, whereas a church or social organization may only use them 1 to 2 days/week. DTC's responsibility, in relation to snow removal, is to clear the main entrance, the park and ride spaces and the main exit before or during scheduled transit service. Snow removal will be done in a manner that will not interfere with scheduled transit operations and that will minimize the possibility of snow accumulation impacting scheduled operations. DTC may utilize its own contractors or may reimburse the property owner for snow removal upon invoice.

4. Informal Lots

Bus passengers may develop informal park and ride lots, which may be brought to the attention of DTC by operators, DTC management personnel, passengers, or local businesses. Whenever DTC has identified an informal park and ride lot consisting of a minimum of 10 cars, Service Development will seek to establish a standardized formal agreement with the property owners. The Attorney General's office must review and approve such an agreement before execution. DTC may also seek to identify adjacent or nearby locations that could be used for the park and ride lot.

5. Contracts

All agreements with private entities for park and ride lots will include provision for termination by either party on reasonable notice. Agreements for physical improvements will include provision for removal of DTC equipment in case of termination and restoration of the site to its original configuration if requested by the property owner. Should service changes or declining utilization indicate that a park-and-ride no longer serves a useful purpose, Service Development will conduct an assessment and prepare a recommendation for termination where appropriate. If termination is approved, Service Development will so notify the property owner and Facilities will make arrangements for removal of equipment and site restoration.

Appendix F

Classification of Park and Ride Facilities

Class I Park and Ride:

Criteria:

- Greater than 200 passenger boardings per day
- At least 100 off-street parking spaces

Associated Facilities:

- Bus stop sign
- Shelter, 25', or as appropriate for ridership, peak hour boardings, and population density
- Schedule rack/holder

- Trash receptacle(s)
- Pay phone
- Lighting
- Bicycle rack and/or lockers
- Newspaper box

Class II Park and Ride:

Criteria:

- At least 50 passenger boardings per day
- At least 25 off-street parking spaces

Facilities:

- Bus stop sign
- Shelter, 15', or as appropriate for ridership, peak hour boardings, and population density
- Schedule rack/holder
- Trash receptacle(s)
- Pay phone
- Lighting
- Bicycle rack (optional)

Class III Park and Ride:

Criteria:

- At least 10 boardings per day
- At least 10 off-street parking spaces
- Park and ride facility is part of a shared use lot with a retail/commercial center, social organization or church

Facilities:

- Bus stop sign

Appendix G

Bus Stop Facilities Matrix

Transit Density	Average Daily Boardings	Facilities
High	40	Shelter, trash receptacle, phone
	20	Bench, trash receptacle
Moderate	20	Shelter, trash receptacle
	10	Bench

Low	10	Shelter
	5	Bench

The size of pad or shelter to be installed is based upon peak hour boardings as an indicator of the number of passengers who may be waiting at the stop at any one time:

Peak Hour Boardings	Typical Pad Size	Typical Shelter Size
20	12 x 8	5 x 15
10	8 x 8	5 x 10
5	5 x 8	5 x 10

Shelters are modular and can be enlarged if required due to ridership growth.

III. JUSTIFICATION

The enactment of this policy will establish standards to provide consistency on where bus stops will be located and the type of passenger related facility that should be provided at each bus stop. These standards will insure that bus stop accessibility and the provision of related facilities and amenities will be provided in a consistent and non-discriminatory manner. This policy will ensure that legal provisions from the Americans with Disabilities Act are incorporated in the development of all new bus stops.

IV. APPROVAL

This policy was reviewed and approved by the Department's Policy Committee on November 30, 1999.

V. RESPONSIBILITY

The Delaware Transit Corporation shall have primary responsibility for implementation of this policy. Implementation shall also include an annual review of the effectiveness of the policy and a recommendation to the Policy Committee whether the policy should be amended or retained without change.

VI. EFFECTIVE DATE

This policy shall become effective thirty days after signature by the Secretary, or, if applicable, upon compliance with the regulatory process required by the Administrative Procedures Act (29 Del.C. Ch. 101).